Before the
DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

In the Matter of	)	
	)	
United States Spectrum Management Policy for the 21st Century	)	Docket No. 040127027-4027-01
	)	

COMMENTS OF THE CELLULAR TELECOMMUNICATIONS & INTERNET ASSOCIATION

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SUMMARY

The Cellular Telecommunications & Internet Association ("CTIA") commends NTIA for undertaking a broad-based, comprehensive look at spectrum policy reform. As noted in CTIA's previous comments to both NTIA and the FCC, the current spectrum allocation process is not working well enough to meet the demand for new, innovative wireless devices and services. Much of the inefficiency in the current allocation regime is due to the politicized nature of the process, and the fact that prior reform efforts have focused only on changes to commercial allocations, rather than studying the most efficient uses of *both* U.S. Government ("USG") allocated spectrum and commercial spectrum. In order to address these issues in the allocation process, and improve the efficiency of spectrum in use, CTIA recommends the following changes to the overall spectrum management process.

First, the U.S. Government, through NTIA and other stakeholders, should develop a "rolling" long-term spectrum planning process. Under this process, the U.S. Government would move away from a fragmented process of trying to determine how small portions of reallocated spectrum should be used, and instead focus on what spectrum could be made available for uses other than the status quo in the future. The U.S. version of such a plan could, for example, consist of two rolling plans: a 3-year and a 10-year plan. The 3-year plan would provide predictability on the availability of spectrum that is slated for reallocation to other uses in the near term. The 10-year plan, on the other hand, would aim for more rational, less political spectrum management decisions over time. As part of this process, CTIA also suggests that the Government could utilize an "independent review" mechanism, composed of academic or other expert

participants, to identify commercial or Government spectrum that is underutilized, and make recommendations for reallocations. Use of such an independent source could help provide a sufficient independent basis for any long-term recommendations, and help insulate those recommendations from the inevitable political objections resulting from any reallocation determinations.

NTIA should also encourage more efficient use of spectrum by those commercial and Government users that are currently not subject to market forces or discipline. Most Public Safety and Federal Government users are not constrained by the same competitive pressures as commercial providers, and in many cases they do not utilize spectrum as efficiently as the private sector. To remedy this situation, CTIA urges NTIA to study reclaiming underutilized Government spectrum through the long-term planning process detailed above. CTIA, however, is concerned that a Federal Government "secondary lease" program might not create incentives for more efficient spectrum use. CTIA also urges NTIA to avoid the creation of unlicensed spectrum "underlays," which could create serious interference problems for licensed users.

CTIA also encourages NTIA to work with the FCC and other Federal agencies to harmonize engineering and other scientific resources so that they may be used more effectively. At this time, however, CTIA sees no need to establish Federal laboratories that would "certify" or "designate" new products or technologies, as there are already numerous private sector entities providing these services.

Finally, CTIA urges NTIA to ensure that any spectrum management or network reliability planning relating to Homeland Security or public readiness be done at the Federal level to avoid a "patchwork" of local, state and tribal standards that will only

serve to complicate efforts to ensure a uniform, national response via government and commercial wireless systems during future attacks or natural disasters. In addition, CTIA encourages NTIA to explore the further use of commercial systems for government communications to ensure maximum communications options should an attack or natural disaster occur.

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COMMENTS OF THE CELLULAR TELECOMMUNICATIONS & INTERNET ASSOCIATION

The Cellular Telecommunications & Internet Association ("CTIA")[1] hereby submits its comments in response to the February 2, 2004, Notice of Inquiry ("Notice") requesting comment on the Administration's proposal to develop and implement a modernized United States spectrum management policy.[2] CTIA commends the Administration for undertaking a broad-based, comprehensive look at spectrum policy reform, and urges NTIA and other stakeholders to work expeditiously towards the creation of a modernized and streamlined spectrum management system.

As noted previously in CTIA's comments to both NTIA and the FCC, the current spectrum allocation process is not working well enough to meet the demand for new, innovative wireless devices and services. Much of the inefficiency in the current allocation regime is due to the politicized nature of the process, and the fact that prior reforms have focused only on changes to commercial allocations, rather than studying the

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[1] CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the organization covers all Commercial Mobile Radio Service ("CMRS") providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products.

[2] *See* United States Spectrum Management Policy for the 21st Century, 69 Fed. Reg. 4923 (Feb. 2, 2004) (hereinafter "Notice")(setting March 18, 2004, deadline for comments in the proceeding).

most efficient uses of *both* U.S. Government ("USG") allocated spectrum and commercial spectrum. As further detailed below, CTIA urges NTIA to address these problems by adopting a less politicized, long-term spectrum planning mechanism to modernize the current allocation process. In addition, CTIA also requests that NTIA take certain other steps to ensure that spectrum is used efficiently, and ensure that all spectrum planning and operational guidelines that could affect Homeland Security or Public Safety operations are formulated on a national level.

I. Moving Towards a Modernized and Improved Spectrum Management System

The Notice requests comment on a number of questions regarding possible ways to improve the system of spectrum management that is currently used in the United States.[3] Specifically, the Notice requests comment on whether the current system "present[s] obstacles to the most efficient and beneficial use of the spectrum" and whether the Federal Government should "consider establishing a centralized organization to perform these functions," including long-term spectrum management and planning.[4]

CTIA believes that the Federal Government's overall spectrum planning and management process must be overhauled and reformed. Current spectrum management and allocation decisions are overly politicized, reactive and unpredictable. In addition, the current spectrum management process focuses far too much on short-term decisions, and lacks a true long-term plan for ensuring that sufficient spectrum resources will be available to meet the increasing needs of both government and consumers for wireless voice and data services. In order to address these problems, CTIA urges NTIA, working

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[3] *See* Notice at 4924-25.

[4] *See id*. at 4924.

in conjunction with other Federal agencies and interested stakeholders, to adopt the following two-step spectrum management reform plan.

A. The U.S. Government Should Develop a "Rolling" Long-Term Spectrum Planning Process

First, the U.S. Government should develop a "rolling" long-term spectrum planning process.[5] Under this process, the U.S. Government would move away from a fragmented process of trying to determine how small portions of reallocated spectrum should be used, and instead focus on what spectrum *could be made available* for uses other than the status quo in the future. In addition, all current Federal Government and commercial spectrum allocated would be reviewed to determine which bands should be considered for reallocation to a different use, or shared. The actual designated use of any spectrum recovered, however, would be identified later in a separate process.

The U.S. version of this spectrum planning process could involve, for example, two separate "rolling" plans: a 3-year and a 10-year plan. The 3-year plan would provide predictability on the availability of spectrum that is slated for reallocation to other users in the near term. The 10-year plan, on the other hand, would aim for more

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[5] The United Kingdom, for example, has developed a long-term plan for spectrum management. In 2002, the United Kingdom's Radiocommunications Agency released an exhaustive report on the "Strategy for the Future Use of the Radio Spectrum in the UK." In the Report, the Radiocommunications Agency took a comprehensive look at all spectrum used by all government and commercial entities, and set out, "in general terms, what the Agency sees as the priorities in terms of future frequency allocations, over the period to 2010." *See* Government of the United Kingdom, Office of Communications, Strategy for the Future Use of the Radio Spectrum in the UK 2002, at 22, *available at* http://www.ofcom.org.uk/static/archive/ra/topics/spectrum-strat/future/strat02/spectrum-strategy2002.pdf (hereinafter "UK Spectrum Strategy Report"); *see also* Government of the United Kingdom, Office of Communications, "About Ofcom," *available at* http://www.ofcom.org.uk/about_ofcom/?a=87101 (noting that the Office of Communications absorbed the activities of the former Radiocommunications Agency in 2003).

rational, less political spectrum management decisions over time and review all government and non-government spectrum uses. The overall goal of both plans would be to provide more predictability and policy guidance to the allocation process in an effort to get away from the current "reactive" approach. The plans may also help lessen the tie between allocation decisions and the budget process that so often has resulted in inefficient and poorly timed spectrum decisions. Moreover, longer-term and more systematic planning domestically would help the United States in its efforts to become more successful in the international spectrum-planning arena.

B. The Long-Term Review Process Could Include an "Independent Review" Mechanism

Another way the U.S. Government could help facilitate difficult spectrum recovery and allocation decisions would be to create an "independent review" mechanism, which could provide the independent technical expertise required for any recommendations made under a "long-term" spectrum management plan. This review mechanism, which could be modeled at least in part on the Base Realignment and Closure Commission ("BRAC") process, could utilize academic and other expert participants to identify Government or commercial spectrum that is being underutilized, or services whose needs could adequately be met in other bands.[6] Spectrum identified by

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[6] *See* U.S. Department of Defense Base Realignment and Closure (BRAC) FAQ, available at http://www.defenselink.mil/brac/02faqs.htm. Under the BRAC process, the Department of Defense first conducts "a threat assessment of the future national security environment, followed by the development of a force structure plan and basing requirements to meet these threats." These criteria are then used to formulate a preliminary base closure recommendation report, which is then forwarded to the Secretary of Defense for review. After the Secretary of Defense reviews the preliminary report, the Secretary then transmits the report to "an independent commission appointed by the president, in consultation with congressional leadership." The BRAC Commission "has the authority to change the Department's recommendations if it determines that the

the independent commission could then be reallocated or shared for more efficient uses as part of the overall spectrum management plan. For example, there may be fixed services currently being provided under 3 GHz that could be accommodated higher up in the spectrum, with no loss of functionality. Unlike traditional approaches where NTIA or FCC efforts become mired in politics, a BRAC-type approach, combined with the long-term spectrum management approach detailed above, could afford sufficient independence to overcome the inevitable political objections to any reallocation decision.[7] Furthermore, a BRAC-type "expert" commission would provide technical input from an independent source, which would also provide solid engineering support to any long-term spectrum reallocation recommendations.

II. Incentives for Achieving More Efficient and Beneficial Use of Spectrum

In addition to seeking input on reform of the current spectrum allocation process, the Notice also requests comment on methods to increase the effective use of spectrum[8] and on the possibility of creating a Federal Government "secondary lease" program whereby the Government would lease temporary or secondary access to non-governmental users.[9] As further detailed below, CTIA believes that sufficient incentives are already built into commercial spectrum markets, such as Commercial Mobile Radio

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Secretary deviated substantially from the force structure plan and/or selection criteria." Once the BRAC Commission issues its final recommendations, the report is then transmitted to the President and Congress, which holds an "up or down" vote on the package of recommendations.

[7] NTIA could also use a modified BRAC approach whereby NTIA and other interested parties prepare data on current spectrum usage and future spectrum needs. That information could then be passed along to an independent "BRAC-type" commission that would make actual recommendations regarding spectrum reallocations.

[8] *See* Notice at 4925.

[9] Notice at 4925.

Service ("CMRS"), that are subject to intense economic pressure to use spectrum efficiently. The focus of improving spectrum efficiency, therefore, is best centered on current governmental users, and commercial users that are not subject to such market pressures.

The Notice asks a number of specific questions regarding possible methods to improve spectrum efficiency, including "incentives or changes" that could be "imposed on the Federal and private spectrum users or potential users to use the spectrum more effectively and efficiently."[10] In addition, the Notice also requests comment on how the "general spectrum management oversight of federal users be improved," including possible changes to the "fee structure and budget processes for Federal users."[11]

As NTIA investigates the concept of improving spectrum efficiency, it should recognize that services with market incentives, such as CMRS and other auctioned services, already have every incentive to maximize spectral efficiency. The majority of CMRS carriers have spent enormous amounts of capital on both spectrum acquisitions and network development. Since CTIA began collecting data in 1985, the wireless industry has invested over $146 billion in capital expenditures,[12] including at least $19 billion spent in 2003.[13] With carriers forced to compete in an industry that is extremely

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[10] Notice at 4925.

[11] *Id.*

[12] *See* CTIA's Wireless Industry Indices, Semi-Annual Data Survey Results (November 2003 Edition, at 150, Chart 37 (noting that wireless industry cumulative capital investment from December 1985 to December 2001 was $105,030,101,000); Merrill Lynch, Wireless Services, The US Wireless Matrix 4Q 03, at 38 (dated March 15, 2004) (stating that wireless industry capital expenditures were approximately $22,217,000,000 in 2002 and $19,009,000,000 in 2003).

[13] *See id.*

competitive, maximizing investment requires that carriers squeeze every efficiency possible out of their available spectrum, before devoting additional capital to acquire new spectrum – if such "new" spectrum is even available.

Additionally, the fact that most CMRS carriers have been faced with spectrum shortages has forced them to be spectrum efficient. The United States has licensed approximately 190 MHz of commercial wireless spectrum, while Japan, Germany and the United Kingdom have 300 MHz, 305 MHz and 364 MHz respectively. As a result, U.S. CMRS providers have had to achieve dramatic increases in spectrum efficiencies. Accordingly, CTIA does not believe that it would be either helpful or prudent for NTIA to regulate efficiency standards for licenses subject to market pressures, such as CMRS providers. These licensees have market incentives to deploy state-of-the-art technologies, and are already utilizing spectrum in a manner that is far more efficient than a prescriptive set of government regulations could impose.

The real spectral efficiency concerns are with services that are not subject to market pressure or discipline. Most Public Safety and Federal Government users are not constrained by the same competitive pressures as commercial providers and they are not required to expend millions to acquire spectrum, as has been the case for the commercial wireless industry for many years. As a result, many of these users do not utilize spectrum as efficiently as the private sector. In order to address this issue, CTIA recommends that NTIA investigate several measures that could improve the efficiency of spectrum currently utilized by the Federal Government and Public Safety users.

First, NTIA should actively move to recover Government spectrum that is under-utilized through the 3 to 10-year long-term spectrum planning process detailed above.

Second, NTIA should look into the experience of other countries that have imposed fees on spectrum utilized by Governmental entities, like the United Kingdom, to determine whether a fee has caused Government users to recognize the actual value of the spectrum, and take steps to either utilize their spectrum more efficiently or return unneeded spectrum. Furthermore, it would be interesting to study the U.K. experience to see if the use of spectrum fees can also encourage the sharing of spectrum resources among various Governmental entities due to the costs involved, and discourage any spectrum "hoarding" that might exist under the traditional model.

CTIA is, however, concerned that the creation of a general Federal Government "secondary lease program" whereby the Federal Government would lease "temporary and/or preemptable access to Federal government spectrum to non-government users" might not create the best incentives to use spectrum efficiently. There may be some circumstances in which allowing secondary uses of Governmental spectrum bands would be appropriate, but it would be difficult to create such access without creating incentives that would institutionalize inefficient spectrum use. The creation of such of program may not increase overall spectrum efficiency because it would increase focus on the "secondary" use of the spectrum, rather than examining whether the "primary" use of the spectrum is truly efficient or whether the spectrum could be better utilized by other Governmental users or by the private sector. Furthermore, the use of a "secondary lease" program might exacerbate any spectrum "hoarding" that is already occurring among certain Government users by creating an "incentive" to lease as much spectrum as possible, rather than actually releasing the spectrum to be fully utilized by other users.

Finally, as part of NTIA's efforts to improve spectrum management and reallocate un-utilized or under-utilized spectrum, CTIA recognizes that it may be appropriate to set aside certain spectrum for unlicensed uses in the future as demand arises. However, as NTIA moves forwards with its spectrum reform efforts, its focus should be on freeing up as much spectrum for licensed uses as possible. Licensed spectrum maximizes licensees' incentive to invest in innovative new offerings because they are afforded protection from interference that could diminish the usefulness of the spectrum. Accordingly, to protect the investment in licensed spectrum offerings and the service quality of consumers, as well as to maximize efforts by licensees to achieve spectrum efficiency, NTIA should adopt a baseline that any unlicensed uses of existing or reallocated spectrum must not interfere with licensed uses.

As part of this baseline, CTIA encourages NTIA to ensure that spectrum reallocated or designated for unlicensed use is set aside in designated blocks that will not interfere with licensed users. For example, the 802.11a band has demonstrated that unlicensed uses can be effectively deployed in bands above 4 GHz, even for broadband uses. Furthermore, as CTIA has stated in other contexts to the FCC,[14] NTIA should approach the use of "underlays" for unlicensed uses with great caution, as underlays have the potential to cause serious interference issues for licensed users.

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[14] *See, e.g.*, Comments of the Cellular Telecommunications & Internet Association, ET Docket No. 03-126 (filed Aug. 21, 2003) (commenting on OSP Working Paper 39, "Unlicensed and Unshackled: A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues"); Comments of the Cellular Telecommunications & Internet Association, ET Docket No. 03-65, MM Docket No. 00-39 (filed July 21, 2003) (commenting on interference immunity performance specifications for radio receivers); Comments of the Cellular Telecommunications & Internet Association, ET Docket No. 02-135 (filed Jan. 27, 2003) (providing comment on the FCC's Spectrum Policy Task Force Report).

III. Encouraging the Deployment of New and Expanded Services and Technologies

The Notice also requests comment on possible new ways to encourage and facilitate the development of new services and technologies. For instance, the Notice requests comment on "the benefits and risks of establishing an organizational mechanism for designating, funding, and operating test platforms to be used in performing reasonably large-scale operational testing" of new products and services.[15] In addition, the Notice also requests comment on whether "one, or more, Federal laboratories" should be "designated and certified to perform this testing."[16]

CTIA supports efforts by NTIA to improve the Federal Government's scientific expertise, and urges NTIA to work closely with the FCC to harmonize resources so that they may be used more effectively. At this time, however, CTIA sees no need to establish Federal laboratories that would "certify" or "designate" new products or technologies. As NTIA is undoubtedly aware, there are already numerous private sector entities that provide testing and independent certification of new telecommunications products, including wireless devices and services. Accordingly, while there is a need for further scientific and engineering expertise at both NTIA and the FCC, CTIA does not believe that there is any need for Federal Government laboratories to provide "certification" or other official "designation" of new products or services at this time.

IV. Spectrum Planning for Critical Homeland Security and Public Safety Needs

The fourth objective of the Notice focuses on further steps that can be taken to assure that all levels of government are able to "maintain continuity of their critical

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[15] Notice at 4926.

[16] *Id.*

governmental activities during future attacks as well as during unexpected natural disasters."[17] As part of this task, the Notice also requests comment on what "is the proper Federal role in developing and coordinating (between the Federal, State, local, and tribal entities) the spectrum management elements relative to government continuity of operation plans."[18] In addition, the Notice requests comment on possible areas of cooperation between public and commercial spectrum users. Specifically, the Notice requests comment on "whether Federal government and non-Federal government systems could be similarly combined as a way to conserve physical and spectrum resources."[19]

A. Spectrum Planning and Network Operational Guidelines Must Be Formulated at the National Level

CTIA strongly believes that any spectrum management or network reliability planning relating to Homeland Security must be done at the Federal level to avoid a "patchwork" of local, state and tribal standards that will only serve to complicate efforts to ensure a uniform, national response during future attacks or natural disasters. Already, certain states, such as New York and Oklahoma, have initiated proceedings that could impose a number of state-specific operational requirements on CMRS carriers operating in those states.[20] These regulations threaten to make a patchwork of the current national

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17 *Id.*

18 *Id.*

19 *Id.*

20 *See New York Public Service Commission, Proceeding on the Motion of the Commission to Examine Telephone Network Reliability, Notice Seeking Comment*, Case 03-C-0922 (Aug. 25, 2003) (studying whether the New York Public Service Commission could "assert authority over cellular carriers operating in New York to the extent of ensuring adequate and geographically diverse interconnecting facilities within the wireline network"); *Oklahoma Corporation Commission, In the Matter of a Rulemaking of the Oklahoma Corporation Commission Amending OAC 165:55, Telecommunications*

CMRS network standards, and could substantially reduce the flexibility of CMRS providers in the event of an attack or natural disaster. Furthermore, since many local and state agencies and first-responders utilize commercial CMRS services -- in addition to Public Safety spectrum -- these patchwork standards could have a real effect on the ability of emergency personnel to respond to an attack or natural disaster. Accordingly, CTIA urges NTIA, in conjunction with the FCC and other federal agencies, to take a strong role in ensuring that both spectrum management and interrelated CMRS network reliability issues are governed by a national framework – and managed on a voluntary basis where appropriate – rather than by a multi-jurisdictional patchwork of conflicting mandatory rules.

B. Further Use of Commercial Systems Will Help Conserve Physical and Spectrum Resources

One of the best ways the Federal government can conserve physical and spectrum resources and ensure continuity of operations during attacks or natural disasters is to explore further use of commercial mobile radio systems for government communications. As noted above, many governmental agencies already rely on commercial systems for critical communications needs. The vast majority of CMRS systems offer the same, if not greater, standards of reliability and security as many Federal government and Public Safety systems. Moreover, the expanded use of such systems would likely lead to substantial cost savings and further spectral efficiency if duplicative systems were scaled back or eliminated. Accordingly, CTIA urges NTIA to study whether certain government communication functions could be effectively served by commercial systems.

Services, Cause No. RM 200400001 (January 2004) (proposing a number of new regulatory requirements for wireless carriers that receive ETC funding, including state-specific technical and operational standards).

CONCLUSION

CTIA commends NTIA for its work to modernize current spectrum management practices, and urges NTIA to adopt the recommendation set forth in these comments as a means of reaching those objectives.

Respectfully submitted,

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